Document details

‹ Back to results | 1 of 1

Export Download Print E-mail Save to PDF Add to List More... ›

Full Text View at Publisher

Natural Product Research
Volume 33, Issue 10, 19 May 2019, Pages 1495-1499

α-glucosidase inhibitors isolated from Mimosa pudica L. (Article)

Tasnuva, S.T.[a], Qamar, U.A.[a], Ghafoor, K.[b], Sahena, F.[c], Jahurul, M.H.A.[d], Rukshana, A.H.[e], Juliana, M.J.[a], Al-Juhaimi, F.Y.[b], Jalifah, L.[f], Jalal, K.C.A.[c], Ali, M.E.[g], Zaidul, I.S.M.[a]

[a]Faculty of Pharmacy, International Islamic University Malaysia, Kuantan Campus, Kuantan, Malaysia
[b]Department of Food Science and Nutrition, King Saud University, Riyadh, Saudi Arabia
[c]Faculty of Science, International Islamic University Malaysia (IIUM), Kuantan Campus, Kuantan, Malaysia

View additional affiliations

Abstract

View references (8)

The aim of the study was to isolate digestive enzymes inhibitors from Mimosa pudica through a bioassay-guided fractionation approach. Repeated silica gel and sephadex LH 20 column chromatographies of bioactive fractions afforded stigmasterol, quercetin and avicularin as digestive enzymes inhibitors whose IC_{50} values as compared to acarbose (351.02 ± 1.46 μg mL^{-1}) were found to be as 91.08 ± 1.54, 75.16 ± 0.92 and 481.7 ± 0.703 μg mL^{-1}, respectively. In conclusion, M. pudica could be a good and safe source of digestive enzymes inhibitors for the management of diabetes in future.

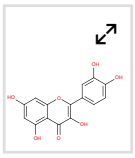
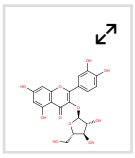
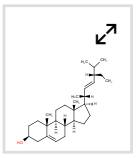
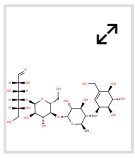
SciVal Topic Prominence

Topic: Polyalthia | Diterpenes, Clerodane | Cancer cell

Prominence percentile: 68.114

Chemistry database information

Substances

Author keywords

Fabaceae | Mimosa pudica | α-glucosidase inhibitors

Funding details

Funding sponsor	Funding number	Acronym
International Islamic University Malaysia		IIUM
	0026	
International Islamic University Malaysia		IIUM

Funding text

This research work was partially supported by research initiative grant scheme [RIGS16-397-0561?and RIGS 16-294-0458] of International Islamic University Malaysia. The authors extend their appreciation to the International Scientific Partnership Program ISPP at King Saud University, Riyadh, Saudi Arabia, for funding this research work through ISPP#

Metrics

View all metrics ›

1 Citation in Scopus

2.89 Field-Weighted Citation Impact

PlumX Metrics

Usage, Captures, Mentions, Social Media and Citations beyond Scopus.

Cited by 1 document

Polarography as a technique of choice for the evaluation of total antioxidant activity: The case study of selected Coprinus Comatus extracts and quinic acid, their antidiabetic ingredient

Karaman, M. , Tesanovic, K. , Gorjanovic, S.
(2019) Natural Product Research

View details of this citation

Inform me when this document is cited in Scopus:

Set citation alert ›

Set citation feed ›

Related research data

α-glucosidase inhibitors isolated from Mimosa pudica L.

Figshare

Data linking provided by

Related documents

Enrichment, in vitro, and quantification study of antidiabetic compounds from neglected weed Mimosa pudica using supercritical CO2 and CO2-Soxhlet

Tunna, T.S. , Sarker, M.Z.I. , Ghafoor, K.
(2018) Separation Science and Technology (Philadelphia)

0026.

ISSN: 14786419
CODEN: NPRAA
Source Type: Journal
Original language: English
DOI: 10.1080/14786419.2017.1419224
PubMed ID: 29281898
Document Type: Article
Publisher: Taylor and Francis Ltd.

References (8)

View in search results format >

All | Export | Print | E-mail | Save to PDF | Create bibliography

1 D'Andrea, G.
Quercetin: A flavonol with multifaceted therapeutic applications?
(2015) *Fitoterapia*, 106, pp. 256-271. Cited 168 times.
www.elsevier.com/locate/fitote
doi: 10.1016/j.fitote.2015.09.018
View at Publisher

2 Kumar, S., Pandey, A.K.
Chemistry and biological activities of flavonoids: an overview
(2013) *Sci World J*, 2013, p. 16. Cited 170 times.

3 Li, Y.Q., Zhou, F.C., Gao, F., Bian, J.S., Shan, F.
Comparative evaluation of quercetin, isoquercetin and rutin as inhibitors of α-glucosidase
(2009) *Journal of Agricultural and Food Chemistry*, 57 (24), pp. 11463-11468. Cited 238 times.
http://pubs.acs.org/doi/pdfplus/10.1021/jf903083h
doi: 10.1021/jf903083h
View at Publisher

4 Torres-Piedra, M., Ortiz-Andrade, R., Villalobos-Molina, R., Singh, N., Medina-Franco, J.L., Webster, S.P., Binnie, M., (...), Estrada-Soto, S.
A comparative study of flavonoid analogues on streptozotocin-nicotinamide induced diabetic rats: Quercetin as a potential antidiabetic agent acting via 11β-Hydroxysteroid dehydrogenase type 1 inhibition
(2010) *European Journal of Medicinal Chemistry*, 45 (6), pp. 2606-2612. Cited 75 times.
doi: 10.1016/j.ejmech.2010.02.049
View at Publisher

5 Tunna, T.S., Ahmed, Q.U., Uddin, A.H.M.H., Sarker, M.Z.I.
Weeds as alternative useful medicinal source: Mimosa pudica linn. on diabetes mellitus and its complications
(2014) *Advanced Materials Research*, 995, pp. 49-59. Cited 5 times.
http://www.scientific.net/AMR
doi: 10.4028/www.scientific.net/AMR.995.49
View at Publisher

6 Tunna, T.S., Zaidul, I.S.M., Ahmed, Q.U., Ghafoor, K., Al-Juhaimi, F.Y., Uddin, M.S., Hasan, M., (...), Ferdous, S.
Analyses and profiling of extract and fractions of neglected weed Mimosa pudica Linn. traditionally used in Southeast Asia to treat diabetes (Open Access)
(2015) *South African Journal of Botany*, 99, pp. 144-152. Cited 12 times.
http://www.elsevier.com
doi: 10.1016/j.sajb.2015.02.016
View at Publisher

Mimosa pudica L.: A comparative study via in vitro analysis and GC Q-TOF MS profiling on conventional and supercritical fluid extraction using food grade ethanol

Tasnuva, S.T. , Sahena, F. , Qamar, U.A.
(2017) Indian Journal of Natural Products and Resources

Review: Mimosa pudica Linn.: The garden weed with therapeutic properties

Gunawardhana, C.B. , Ranasinghe, S.J. , Waisundara, V.Y.
(2015) Israel Journal of Plant Sciences

View all related documents based on references

Find more related documents in Scopus based on:

Authors > Keywords >

7 Umar, A., Ahmed, Q.U., Muhammad, B.Y., Dogarai, B.B.S., Soad, S.Z.B.M.

Anti-hyperglycemic activity of the leaves of Tetracera scandens Linn. Merr. (Dilleniaceae) in alloxan induced diabetic rats

(2010) *Journal of Ethnopharmacology*, 131 (1), pp. 140-145. Cited 46 times.
doi: 10.1016/j.jep.2010.06.016

View at Publisher

8 Yuan, K., Lu, J.L., Jia, A., Zhu, J.X.

Two new C-glycosylflavones from Mimosa pudica

(2007) *Chinese Chemical Letters*, 18 (10), pp. 1231-1234. Cited 11 times.
doi: 10.1016/j.cclet.2007.08.008

View at Publisher

Zaidul, I.S.M.; Faculty of Pharmacy, International Islamic University Malaysia, Kuantan Campus, Kuantan, Malaysia; email:zaidul@iium.edu.my

Back to results | 1 of 1

Top of page